

**REMARKS**

The Applicants appreciate the Examiner's thorough examination of the subject application. Applicants request reconsideration of the subject application based on the following remarks.

Claims 48 thru 51 have been canceled without prejudice. Claims 52 thru 58 have been added. Support for the new claims can be found throughout the application as filed. No new matter has been added by the amendments to the specification or the claims.

Applicants' attorneys wish to thank Examiner Fronda for the opportunity to discuss the merits of the present application during a telephonic interview on July 28, 2004. As discussed during the interview and as also suggested by the Examiner in the current Office Action, claims 48-51 have been canceled in favor of added claims 52-58 which incorporate the characteristic of the enzymes as being hybrid proteins and have been set out as individual claims to separate the individual SEQ ID Nos: 1-5, 46 and 50.

1. Claims 48-51 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention

The Examiner states, "The claims are genus claims that are directed toward any hybrid enzyme of any enzymatic and biological activity having an amino acid sequence of SEQ ID NO:6 that is modified by insertion or substitution in at least one of the recited positions with any peptide comprising SEQ ID NOs:1-5, 46 or 50, wherein any compound/material is able to bind to the inserted peptide.

The scope of the claimed genus includes many hybrid enzymes with widely differing structural, chemical, biological, and physical characteristics. Furthermore, the genus is highly variable because a significant number of structural differences between genus members is permitted.

However, the specification describes a genetically modified glucose-6-phosphate dehydrogenase (G6PDH) comprising the amino acid sequence of SEQ ID NO: 6 which is modified to have a peptide inserted into at least one specific position selected from the group consisting of the position between amino acid residues 294-295, between amino acid residues 302-303, between amino acid residues 305-306, between amino acid residues 306-307, between amino acid residues 308-309, between amino acid residues 309-310, between amino acid residues 362-393, the N-terminal, and the C-terminal; wherein said peptide consists of at least 6 amino acid residues of an amino acid sequence selected from the group consisting of SEQ ID NOs: 1-5, 46, and 50; and wherein an anti-CRP antibody binds to the peptide (see Table 1 and examples).

The specification fails to provide a written description of additional representative hybrid enzymes as encompassed by the genus claims. Applicants have failed to sufficiently describe the claimed invention, in such full, clear, concise, and exact terms that a skilled artisan would recognize Applicants were in possession of the claimed invention.

Amending the claims to recite the following may overcome the rejection: an isolated and genetically modified glucose-6-phosphate dehydrogenase (G6PDH) comprising the amino acid sequence of SEQ ID NO: 6 which is modified to have a peptide inserted into at least one specific position selected from the group consisting of the position between amino acid residues 294-295, between amino acid residues 302-303, between amino acid residues 305-306, between amino acid residues 306-307, between amino acid residues 308-309, between amino acid residues 309-310, between amino acid residues 362-393, the N-terminal, and the C-terminal; and wherein said peptide consists of at least 6 amino acid residues of an amino acid sequence selected from the group consisting of SEQ ID NOs: 1-5, 46, and 50.

Applicants have amended the subject matter of claims 48-51 by canceling these claims and adding new claims 52-58 which include the limitations of claims 48-51 and the added characterization of the enzymes as hybrid proteins. Applicants have also separated the SEQ ID Nos 1-5, 46 and 50 into individual claims.

2. Claims 48-51 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner states, "The phrase "has a character that there is a material having binding ability" renders the claims vague and indefinite because the specific identity of the "material having binding ability" is not known and not stated in the specification."

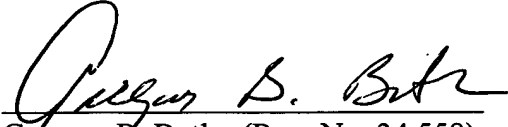
Claims 52-58, as they have been added and submitted, do not contain the phrase, "has character that there is a material having binding ability", thereby obviating the basis for rejection.

In summary, reconsideration of this application and the allowance of Claims 52-58 of this application as hereinabove added in response to this communication are respectfully requested for the reasons stated above.

Finally, Applicants believe that additional fees are not required in connection with the consideration of this response to the currently outstanding Official Action. However, if for any reason a fee is required, a fee paid is inadequate or credit is owed for any excess fee paid, you are hereby authorized and requested to charge and/or credit Deposit Account No. **04-1105**, as necessary, for the correct payment of all fees which may be due in connection with the filing and consideration of this communication.

Respectfully submitted,

Date: October 1, 2004

  
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